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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,925

08/21/2006

Juan Dong

149041.00100

7631

25461 7590 09/26/2008

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EXAMINER

ZHU, WEIPING

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

09/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/565,925	DONG ET AL.	
	Examiner	Art Unit	
	WEIPING ZHU	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1-6 and 12-15 are currently under examination, wherein claims 1-6 have been amended and claims 12-15 have been newly added in applicant's amendment filed July 21, 2008. In response to the Office action of a restriction requirement dated June 20, 2008, the applicant has elected the Invention of I, claims 1-6 without traverse in applicant's amendment filed on July 21, 2008. The applicant in the same amendment has withdrawn the non-elected Invention of II, claims 7-11.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 and 12-15 are rejected under 35 U.S.C. 103(a) as unpatentable over Umetani et al. (US 5,171,348).

With respect to claims 1, 2, 12 and 14, Umetani et al. ('348) discloses a process for low-wear micromachining of a workpiece made from a cermet comprising TiN by a diamond tool comprising: prior to the machining, forming an intermediate layer comprising a Ni alloy on a thin film formed on the workpiece so as to create a thermochemically treated zone on the workpiece; and precisely machining the intermediate layer by a diamond tool into a desired shape (col. 11, lines 5-44). Umetani et al. ('348) does not disclose that the workpiece is made of metallic materials or metal

Art Unit: 1793

alloys as claimed in the instant claim 1; and that the workpiece is subjected to a thermochemical surface layer treatment prior to the machining as claimed in the instant claim 1. However, the cermet of Umetani al. ('348) reads on the metallic materials or metal alloys as claimed, because a cermet is a composite material composed of ceramic and metallic materials and machining a cermet with a diamond tool would usually cause greater wear of the diamond tool than machining a metallic material. Forming an intermediate layer on the workpiece of Umetani et al. ('348) also reads on the claim limitation of subjecting the workpiece to a thermochemical surface layer treatment, because they are functionally equivalent in terms of modifying the surface composition, structure and properties of the workpiece thermochemically. See MPEP 2144.06.

With respect to claim 3, Umetani al. ('348) discloses the intermediate layer comprises Ni-P or Ni-B alloy (col. 11, lines 27-31).

With respect to claims 4 and 5, Umetani al. ('348) does not disclose the claimed features. However, prior to the machining, forming an intermediate layer comprising a Ni-P or a Ni-B alloy on a thin film comprising a nitride formed on the workpiece of Umetani et al. ('348) (col. 3, lines 24-52) reads on the claimed features in terms of introducing desired elements into the surface zone of the workpiece to improve the machinability of the workpiece using the diamond tool.

With respect to claims 6 and 13, Umetani al. ('348) discloses that diamond grinding (col. 15, line 66 to col. 16, line 1) is performed within the intermediate layer (col. 11, lines 31-32).

With respect to claim 15, Umetani al. ('348) does not limit how the cermet workpiece is produced. It would have been obvious to one of ordinary skill in the art at the time the invention was made to produce the cermet workpiece by sintering as claimed with expected success, because Umetani al. ('348) discloses the same utility of cermet workpieces produced by either casting or sintering. See MPEP 2144/05 I.

Conclusion

3. This Office action is made non-final. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/565,925

Page 5

Art Unit: 1793

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

WZ

9/20/2008